The U.S. Anti-Satellite Program:

A Case Study in Decision Making

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INTRODUCTION

Today we are further away from having an operational anti-satellite (ASAT) weapon than we were four years ago. This is the case despite strong and unwavering support from the President, the Secretary of Defense, the Secretary of the Air Force, and Unified and Specified Commanders-in-Chief. Unfortunately, this situation is not the result of a bilateral, negotiated agreement with the Soviet Union (which happens to possess operational ASAT's). Rather, it is primarily the result of Congressional pressure to kill (or at least torture to death) the Air Force's nearly operational Air Launched Miniature Vehicle (ALMV) ASAT. Today, the Army and the Navy are vying to develop and produce ASAT's not too dissimilar from what the Air Force recently cancelled.

Logic does not appear to be driving the decision making process; bureaucratic politics has played a major role in getting us to where we are today. In this paper I will address two salient questions which, on the surface, would not have to be asked if simple logic prevailed:

- Why did the Air Force cancel its ASAT program and thus apparently abdicate a mission area which it must feel responsible for?
- Why do the Army and Navy think they can succeed in developing ASAT's while the Air Force did not?

In the course of addressing these questions, I'll begin by setting the background some history leading to the Air Force's cancellation decision. Next, I'll attempt to answer the two questions by looking at Air Force, OSD, Army, and Navy positions.

The paper will conclude with lessons to be learned from this case study.

BACKGROUND

Some knowledge of the early history of ASAT development helps in understanding the recent positions taken by the Air Force, Army, and Navy on the ASAT issue. The following paragraphs briefly discuss the early ASAT history, the more recent history of the Air Force's Air Launched ASAT, some Congressional concerns regarding the ASAT and arms control, and recent developments leading to the Air Force cancellation of the Air Launched ASAT program.

Early ASAT's

The Air Force first studied anti-satellite weapons more than three decades ago in 1956. The first U. S. test of an ASAT was conducted by the Air Force in 1959 and relied on a nuclear warhead to compensate for inaccuracies and assure destruction of the target.

In the early 1960's the Navy studied non-nuclear ASAT's based on a warhead that dispersed a cloud of pellets designed to shred the target. The Navy ran exploratory air launched tests in 1962.

In addition to the Air Force and Navy efforts, the Army developed an ASAT derived from their Nike Zeus interceptor missile. As with the Air Force system, the Nike Zeus also relied upon a nuclear warhead. In May of 1963 the Army conducted a successful test. By August 1963, the Army declared the system

operational. The system was very limited and was phased out by 1967.

In 1964 the Air Force declared operational an ASAT system based on the Thor missile carrying a 1.5 megaton nuclear warhead. This system remained in the operational inventory until 1975.

These early ASAT's were driven more by a fear of Orbital Bombardment Systems and Fractional Orbital Bombardment Systems than concern over disabling Soviet spy satellites or responding in kind to Soviet ASAT attacks on our surveillance and reconnaissance systems.

The Soviets are not newcomers to the ASAT regime either. The first test of their coorbital ASAT was in 1968. They conducted seven tests from 1968 to 1971.

Air Launched ASAT

After a quiet period of five years, Soviet testing resumed in 1976, prompting the Ford Administration to pursue a new approach to ASAT. That new approach eventually developed into what is now called the F-15 Air Launched Miniature Vehicle (ALMV) Anti-Satellite Weapon. After launch from an F-15 at about 50,000 feet altitude, the ASAT system used modified off-the-shelf boosters to put what was called a Miniature Vehicle (MV) on a near collision course with the target space object. The MV then used on-board infrared sensors and solid rocket motors to guide the MV to a catastrophic collision with the intended target.

Congressional Concern

A 1983 General Accounting Office (GAO) report initially raised Congressional concerns. The GAO report, generated by an

Air Force request for advanced procurement funding, contained two erroneous conclusions regarding internal costs estimates and changing mission requirements. In the middle of the 1980's Congress became increasingly concerned about the aspect of potential escalation of space weapons posed by continued ASAT development and deployment. ASAT became mired in an arms control debate while concerns over cost and schedule growth increased. The FY 84 Defense Authorization Bill included test restrictions unless

> the President determines and certifies to the Congress (a) that the United States is endeavoring, in good faith, to negotiate with the Soviet Union a mutual and verifiable ban on antisatellite weapons; and (b) that pending agreement on such a ban, testing of explosive or inert antisatellite warheads against objects in space by the United States is necessary to avert clear and irrevocable harm to the national security.

President Reagan submitted the certification to Congress and on Friday the 13th, 1985, the Air Force conducted a flawless test of the MV ASAT against a dying Air Force satellite.

Recent Developments

The Congressional ban against testing of the F-15 ASAT continued from FY 1985 through FY 1987, but executive support for an ASAT system never wavered. In a May 11, 1987 Presidential paper on The U. S. Anti-Satellite Program, President Reagan said,

> Failure to provide a deterrent in-kind to the operation Soviet system would perpetuate the existing destabilizing situation in which the Soviet Union has an uncontested capability to attack our space systems, secure in the knowledge that their systems are not vulnerable to counter-attack.

The executive position has maintained a steady course for years. We need ASAT for two purposes. The first is to act as a

deterrent to Soviet use of their ASAT. If we don't have an ASAT then they can take out our satellites and our only two responses are to

- o do nothing
- o attack something other than one of their satellites with the attendant risk of the appearance of escalation

The second purpose is to provide a means to negate the Soviet capability to use satellites to target our armed forces.

Despite Reagan Administration commitment to the need for a U. S. ASAT, on 14 March 1988 the Air Force cancelled the F-15 Air Launched MV ASAT -- our only ASAT program. Almost concurrently with the Air Force cancellation, a Defense Acquisition Board decided that the Army would have the lead of a joint effort to develop ASAT weapons. The Acquisition Decision Memorandum signed by the Secretary of Defense gave authority to the Army and the Navy to develop land and sea based anti-satellite weapons. The Air Force would be responsible for development of battle management and command, control, and communications for the weapon(s).

With the background set, we can turn our attention to addressing the two questions.

AIR FORCE STORY

The first and most important question is why did the Air Force cancel the ALMV ASAT? The answer is that despite strong support from the Office of the Secretary of Defense and the Administration a broad combination of factors convinced the Air Force leadership that continued pursuit of the ALMV ASAT was not

in line with overall Air Force objectives:

- The series of Congressional bans on testing denied continued development and precluded any deployment.
- At the time of the bans the Air Force was putting about $200 million each year in obligational authority into the program. Because of the bans, the investment was effectively being wasted.
- Support for the system was eroding in the Air Force because the ALMV ASAT would be expensive to procure and operate. The program had grown from an original life-cycle cost estimate of $2.8 billion in 1978 to $3.5 billion by 1985.
- Air Force budget support was erratic. During several years the Air Force significantly cut or zeroed the budget for ASAT, but OSD restored funding when the President's Budget was submitted.
- The system was perceived to have operational limitations that made it unattractive. It was not responsive. The preparations for launch were cumbersome and time consuming. Further, the effective altitude of the ASAT was limited and rendered it incapable of attacking many Soviet satellites.

Nevertheless, the ALMV program was the United States' best hope of achieving an early Initial Operational Capability (IOC). In September of 1987, Air Force Secretary Aldridge reported to Senator Nunn that "Use of any other systems, including those being developed under Strategic Defense Initiative would delay an operational capability by a minimum of four years."

The Air Force does not consider cancellation of one ASAT program tantamount to abdication of the mission area. The Air Force is very actively pursuing ground-based laser technology

with an eye toward developing a ground-based laser ASAT. Much of the work done by the Air Force for the SDIO's Space-Based Interceptor program (the better known "Brilliant Pebbles" is a variant of Space-Based Interceptor) is directly applicable to a space-based kinetic energy ASAT. And the Air Force will develop the battle management/command, control, & communications (BM/C3) for whatever weapons may be developed for the ASAT mission. The attitude seems to be that the Air Force doesn't care who develops the actual weapon as long as the Air Force will be the operator. By the time the Air Force cancelled the MV ASAT, program costs amounted to $1.7 billion. Costs to terminate the contracts ran an additional $30-35 million. Nearly fourteen years had been invested in the effort. As recently as January 1988, President Reagan reaffirmed his direction to develop an operational ASAT as soon as possible. And in February 1988, just one month before cancellation, the Joint Chiefs of Staff issued a Required Operational Capability statement specifying the need for an operational ASAT. Even parts of Congress indicated support for an ASAT. For example, there was no testing ban for FY 88.[1/] The Senate Armed Services Committee directed the Secretary of

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1/ The FY 88 Defense Appropriation Bill did not include an ASAT ban. Congressional opponents, led by Congressmen George Brown (D-CA), Les Aucoin (D - OR) and Lawrence Coughlin (R-PA), failed in their bid to include a ban on the ALMV ASAT. Their failure was primarily due to their over-zealous attempt to institute a permanent ban rather than the annual, one year bans they had successfully included in the appropriations bills the three previous years. Other factors contributing to their failure include spirited support for ASAT's led by William Dickinson (R-AL), and the fact DoD did not request funds for the ALMV ASAT (Aspin said a test ban "looked like piling on.")

Defense to submit a report on space control capabilities (i.e. ASAT's) of the Armed Forces along with the FY 90 budget.

Some still question the wisdom of cancelling the ALMV program.

OSD RESPONSE

Only three days after the cancellation decision, Air Force Secretary Aldridge asked the Chairman of the JCS to assemble a General Officer Steering Group (GOSG) to develop a strategy to address the ASAT requirements. After six months of study, the GOSG concluded that although the MV ASAT offered the best opportunity to achieve an early IOC, but Congressional opposition made it unviable. They recommended that a Joint Service Task Force develop alternatives for near-term ASAT's and to present the results to the DAB for a milestone 0 decision.[2/]

The milestone 0 Acquisition Decision Memorandum documents the DAB results which which gave the interim lead for development of a kinetic energy ASAT to the Army. The Navy was tasked to participate in the joint program office. Presumably, the Army would examine land-based systems while the Navy would consider sea-based systems. Their joint goal would be to have a mix of interoperable land- and sea-based systems. The Air Force retained authority for development of BM/C3 for the ASAT. The DAB encouraged both the Air Force and the Army to continue

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2/ At a milestone 0 the DAB determines whether to authorize the start of a new program based primarily on mission requirements and the approach to satisfying the mission need.

development of technologies and systems for ground-based laser ASAT's for far-term applications.

ARMY AND NAVY JUMP IN

Why would the Army make a strong bid for the development of the next kinetic energy ASAT? Given the Congressional opposition to the ALMV ASAT encountered by the Air Force, what would make the Army think it could succeed where the Air Force hadn't? The same questions are equally applicable to the Navy.

Old Army Mission; New Army Business

Army ASAT experience goes back over 25 years. The Army actually had an operational ASAT. Some of the technologies involved in a kinetic energy ASAT derive from the work done by the Army on Anti-Ballistic Missile (ABM) systems deployed two decades ago. Further, the Army is a big player in the Strategic Defense Initiative. (The Army spends about one-third of the the SDI annual budget.) The technologies and systems the Army has been developing for the SDI are readily transferable to kinetic energy ASAT applications. The biggest motivator may be the decreasing budgets the SDI will undoubtedly be faced with in the coming years. The Army would welcome the opportunity to keep actively employed the many people in Huntsville, Alabama at their Strategic Defense Command. Moreover, as DoD budgets face declining years, the ASAT program represents additional obligational authority -- it doesn't come our of the Army's Total Obligational Authority.

The Army is obviously interested in space as evidenced by

their active participation in the SDI. The ASAT role may provide the inroad they seek for more space involvement.

Why they got the lead is another matter. The system the Army offered to the GOSG was more capable and more responsive than the Air Force's ALMV ASAT. (It is a derivative of a system they have been developing for the SDIO known as the Exo-atmospheric Interceptor System, ERIS.) With increased capability and responsiveness it is bound to generate support not only from CINC Space but from other warfighting CINCs as well. And where the Air Force ALMV ASAT had no proactive defenders in Congress, Representative William Dickinson (R-AL; Montgomery AL) has already displayed his ardent support for a system which is to be developed in his district. With Dickinson on board, the Army may have already overcome the tallest obstacle confronted by the Air Force.

Navy Signs Up to Protect the Fleet

For years the Navy has said that the Soviet space-based surveillance systems could be defeated by methods which did not require an ASAT to negate satellites. Spoofing and other forms of deception or concealment along with control of electronic emissions would provide adequate protection from Soviet attempts to target the fleet from space. As the Navy looks toward the future, increased Soviet capabilities suggest that current countermeasures will provide inadequate protection in the near future. The obvious solution is to negate the Soviet satellites with ASAT's. Since land-based ASAT's may not be responsive or mobile enough to counter threats around the globe, a sea-based

ASAT is the Navy's desired approach.

But the Navy blundered and is now at the fiscal mercy of the Army. At one point, while the Air Force was cancelling its ASAT, OSD loaded ASAT funding into the Navy budget. It appeared as if the Navy might get the lead on weapon development. However, in the midst of a budget cutting activity, the Navy offered up the ASAT money to cover its share of the cuts. OSD was not amused. OSD transferred the ASAT funds to the Army and still dunned the Navy for its share of the budget cut.

The ASAT role would have provided the Navy more inroads into space. The Navy has had some significant interest and assets in space, but they haven't been heavily involved in the SDI. The single blunder may have effectively transferred the ASAT program in whole to the Army.

CONCLUSIONS

This case study illustrates several notable lessons in decision making and the bureaucratic process:

o First, while the logic may not be simple, there are understandable reasons for positions taken by various actors and for the outcome of a decision. What appeared to be an Air Force abdication of the space control, turned out in reality to be a rational decision based on not only the prospects for success, but also changing mission requirements and budgetary realities.

o What may be logical to one branch of government may not be logical to another branch. In other words, reasonable men can agree to differ. The national security needs for an ASAT are

clear and evident to the executive branch. Stability results from our ability to respond in kind to the Soviet's ASAT. But the Congress deemed the risks of escalation to space weapons unacceptable and a threat to national security. They viewed the U. S. ASAT as destabilizing. Who's right?

o Organizations tend to act on behalf of their own interests. The Air Force decided continuation of the ALMV ASAT would be a waste of budget authority and of taxpayers' money. The Army saw an opportunity to expand their role in space, increase their budget, and keep people gainfully employed. The Navy became concerned that their battle groups could, in the future, be targeted by Soviet satellites. A sea-based ASAT was both a solution and an opportunity to expand their space role.

o No decision in Washington is ever final. The Congress refused to go along with a permanent ban on ASAT's. The Army has hopes of generating Congressional support for their ASAT, because Representative Dickinson of Alabama has adopted their cause. Also there may be growing interest in the Senate over protection of critical space assets.

In sum, the Department of Defense continues to develop anti-satellite weapons. The Pentagon decision making process will determine if the Army will continue as the lead agency, if the Navy will get the lead, or if the program will be split two or even three ways among the services. Congress will continue to appropriate money for ASAT's, but may, in the future, decide once again not to let DoD test them.

It all depends.

APPENDIX

[Author's note: The following was originally a preface to this paper. Because it does not deal specifically with the bureaucratic process associated with the ASAT issue, I moved it to this appendix so it would not detract from the main purpose of this paper.]

PREFACE

I feel it is necessary to comment on why I chose this subject for this essay and on the difficulties I encountered in researching this subject. I believe these comments demonstrate some of my learning about the overall topic of bureaucratic politics and processes. The bottom line being that I don't think any one individual, or even one essay for that matter, can capture the truth regarding how decisions are really made in our government. Too many interests operating and too many versions of what happened, all influenced by individual and organizational perspectives, make it nearly impossible to deduce the truth from the complex situations which are frequently encountered in our decision making process.

I originally intended to write about how the Strategic Defense Initiative (SDI) has come to pursue a weapon system concept known as "Brilliant Pebbles." This would be a good subject for me since I spent three years, from 1985 to 1988, working on kinetic energy weapons for the Strategic Defense Initiative Organization (SDIO). Since "Brilliant Pebbles" came along after I no longer worked for the SDIO, I was curious how it

came to overshadow the Space-Based Interceptor program that I had worked on for three years.

On second thought, I realized that I shouldn't and couldn't write about SDI. "I shouldn't" because I'm sure that after three years on a program I am probably too emotionally disposed toward advocacy for my old program. Thus, I would be handicapped in impartially analyzing the bureaucratic politics at work behind the "Brilliant Pebbles" decision. "I couldn't" because I realized I really had no idea what was influencing the SDIO decisions I observed even while I was working for the SDIO. Programmatic decisions frequently altered the course of major and minor programs. More often than not, the decisions were short-lived and were generally unrelated to logic or even the overall budget status. Perhaps that situation makes those decisions ideal candidates for an analysis of the bureaucratic process, but I figured you would really have to be on the "inside" at the upper levels to have any true perspective on what was actually driving the process. I wasn't nor am I now inclined to approach General Abrahamson with a set of questions which might be interpreted as impertinent or insulting.

So, I decided to select another topic for this essay. My interest in space guided me to another issue I have been curious about. Over 21 months ago the Air Force cancelled its air-launched anti-satellite (ASAT) weapon program. Since that time, the Army ended up with the lead in developing a near-term ASAT. The Navy also has a weapon development role, while the Air Force ended up with only the Battle Management/Command, Control, & Communications (BM/C3) role -- no near-term weapons development.

Two questions struck me. First, why would the Air Force abdicate a mission area which it must have believed it was responsible for. Second, if the Air Force gave up the mission for either technological, fiscal, or political reasons, why might the Army or the Navy think they could succeed where the Air Force didn't.

The issue looked like a good topic for this essay on the bureaucratic process. Since the rational actor model didn't seem to fit, perhaps the bureaucratic politics model would. Now, all I had to do was research the subject, interview a few people, and write about what I had found. The task was more complicated than I had hoped.

The contemporary aspect of the issue hampered the research. Although there are several books on ASAT, periodicals and recent papers proved to be the only sources for such recent developments. Aviation Week and Space Technology magazine was the most fruitful source on the chronology of the decision making, but it provided virtually no insight as to how or why the decisions were made. The fact the 1988 index to Congressional Quarterly was missing from the NDU Library confounded researching the Congressional involvement and interest.

Obtaining interviews also turned out to be more difficult than expected. A Defense Acquisition Board (DAB -- the Department of Defense decision making board for all major weapon system milestones) was scheduled for 12 December 1989. Thus, almost everyone in the Air Force, Navy, and Army who would know about the current ASAT situation would be busy preparing for the DAB

and attending all the meetings which precede it. Another complicating factor was reluctance to discuss the politics due to sensitivities and proximity of the DAB. (One Army representative said he wouldn't discuss the issue with me since "those papers at the War College are subject to the Freedom of Information Act, anyone could get hold of them, and next thing you know you're reading about it in the Washington Post.") Further, trying to arrange appointments at times convenient to the principals that also fit into a student's schedule limited the number of interviews and hence the breadth of the perspective.

Once I finally obtained sufficient information, the writing was fairly uneventful. The various sources told essentially the same story with only minor variations due to differing perspectives.

If I were to do it again, I would have chosen a less contemporary issue. Even then there would be complications such as the identification and availability of knowledgeable actors.

Despite the difficulties, I learned more about the ASAT and much about the bureaucratic process of decision making in the Pentagon.

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